



HCSL/ 3.3V or 2.5V/ 7.0×5.0mm



RoHS Compliant

**Features**

- Miniature ceramic package
- Highly reliable with seam welding
- HCSL output
- Supply voltage Vcc=3.3V, 2.5V
- ±25×10<sup>-6</sup> available
- Low Phase Noise

**Table 1**

Freq. Tol. Code	Tol. × 10 <sup>-6</sup>	Operating Temperature Range (°C)	Note
0	± 50	0 to +70	Standard specifications
S	± 30		
U	± 25	-40 to +85	Please contact us for available frequencies.
F	±100		
G	± 50		
6	± 50		

**How to Order**

KC7050P 100.000 H □ □ J 00  
① ② ③ ④ ⑤ ⑥ ⑦

- ①Series
- ②Output Frequency
- ③Output Type (HCSL)
- ④Supply Voltage (3 : 3.3V or 2 : 2.5V)
- ⑤Frequency Tolerance (See Table 1)
- ⑥Symmetry/ INH Function(45/ 55%)
- ⑦Individual Specification (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

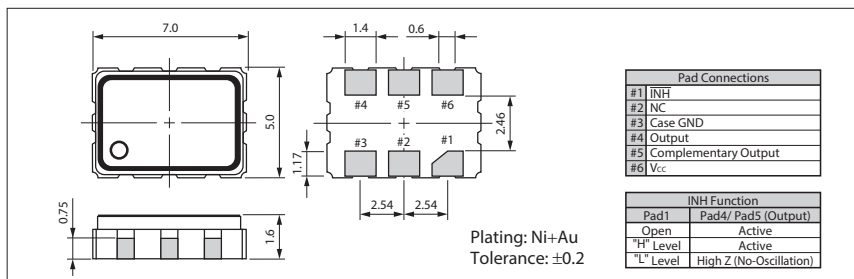
**Specifications**

Item	Symbol	Conditions	Specifications				Unit	
			KC7050P-H2		KC7050P-H3			
			Min.	Max.	Min.	Max.		
Output Frequency Range <sup>Note1</sup>	f <sub>o</sub>		25	175	25	175	MHz	
Frequency Tolerance	f <sub>tol</sub>	Initial tolerance, Operating temperature range, Rated power supply voltage change, Load change, Aging (1 year @25°C), Shock and vibration	-50	+50	-50	+50	×10 <sup>-6</sup>	
Storage Temperature Range	T <sub>stg</sub>		-55	+125	-55	+125	°C	
Operating Temperature Range	T <sub>use</sub>		0	+70	0	+70	°C	
			-40	+85	-40	+85		
			-40	+105	-40	+105		
Max. Supply Voltage	—		-0.3	+4.0	-0.3	+4.0	V	
Supply Voltage	V <sub>cc</sub>		2.375	2.625	2.97	3.63	V	
Current Consumption	I <sub>cc</sub>		—	50	—	50	mA	
Stand-by Current	I <sub>std</sub>		—	20	—	20	µA	
Symmetry	SYM	50ohm @crossing point	45	55	45	55	%	
Rise/ Fall Time 0.175V to 0.525V	Tr/ Tf	50ohm	—	0.5	—	0.5	ns	
Low Level Output Voltage <sup>Note2</sup>	V <sub>OL</sub>		-0.15	+0.15	-0.15	+0.15	V	
High Level Output Voltage <sup>Note2</sup>	V <sub>OH</sub>		+0.66	+0.85	+0.66	+0.85	V	
Output Load	RL	HCSL Output	50		50		ohm	
Low Level Input Voltage	V <sub>IL</sub>		—	30% V <sub>cc</sub>	—	30% V <sub>cc</sub>	V	
High Level Input Voltage	V <sub>IH</sub>		70% V <sub>cc</sub>	—	70% V <sub>cc</sub>	—	V	
Disable Time	t <sub>dis</sub>		—	200	—	200	ns	
Enable Time	t <sub>ena</sub>		—	10	—	10	ms	
Start-up Time	t <sub>str</sub>	@Minimum operating voltage to be 0 sec.	—	10	—	10	ms	
Deterministic Jitter	DJ	Measured with Wavecrest SIA-3000	—	2	—	2	ps	
1 sigma Jitter	J <sub>sigma</sub>		—	4	—	4	ps	
Peak to Peak Jitter	J <sub>PK-PK</sub>		—	30	—	30	ps	
Phase Jitter	J <sub>Phase</sub>	@100MHz V <sub>cc</sub> =3.3V	BW : 12kHz to 20MHz	—	0.5	—	0.5	ps
Phase Noise	—	@100MHz V <sub>cc</sub> =3.3V	@10Hz offset	Typ. -77		dBc/ Hz		
			@100Hz offset	Typ. -107				
			@1kHz offset	Typ. -130				
			@10kHz offset	Typ. -142				
			@100kHz offset	Typ. -149				
			@1MHz offset	Typ. -150				
@10MHz offset	Typ. -152							

Note : All electrical characteristics are defined at the maximum load and operating temperature range.  
Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.  
Note2: DC characteristic

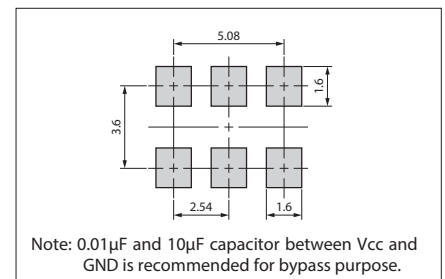
**Dimensions**

(Unit: mm)



**Recommended Land Pattern**

(Unit: mm)



Clock Oscillators

